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HIGH CANCER DEATHRATE IN 1931

The mortality figures for cancer during the first half of 1931 are anything but encouraging. Unless the situation takes a distinct turn for the better during the rest of the year, 1931 will not only set a new high deathrate for this disease but will register a larger year-to-year increase than has yet been observed. We have learned to expect a small rise every year in the cancer deathrate. But nothing in the mortality experience of the last two decades gives basis for the expectation of as large an increase, in any one year, as we have experienced during the first six months of 1931.

Among the many millions of Industrial policyholders of the Metropolitan Life Insurance Company the cumulative deathrate for this disease has increased from 77.0 per 100,000, during the first half of 1930, to 83.1 for the corresponding period of 1931. This is equivalent to a rise of nearly eight per cent. Unfortunately, mortality data for the general population in 1931 are extremely scanty and it is impossible to determine definitely, at this writing, what has happened with respect to cancer mortality in the country as a whole. Nevertheless, such facts as are available indicate a larger rise than usual in the cancer deathrate. This is true, particularly, in two large states, New York and New Jersey. While scattered data for the general population do not point to as pronounced a rise as shown for the insured, they do indicate that the cancer situation this year is even more serious than usual.

One important conditioning factor must be evaluated in drawing conclusions about the latest facts relating to deaths from cancer. The influenza epidemic was doubtless responsible, in part, for the considerable rise in the cancer deathrate during the first quarter. In past years the usual experience has been that the mortality from all important chronic diseases increases during widespread influenza outbreaks. Nevertheless, no part of the 4.5 per cent. rise, registered for

cancer in the second quarter, can be ascribed to influenza, inasmuch as the combined deathrate for influenza and pneumonia was actually lower in that quarter of 1931 than in 1930.

In so far as we are able to determine at this writing, the 1931 increase in the cancer deathrate has not been concentrated in any particular age range. Data are not yet available to show whether the age distribution of the Industrial policyholders differs materially this year from last; and whether there is, in 1931, a larger proportion of lives exposed to risk in the age groups where the cancer deathrate is highest. There has been little change this year, however, in the ratio of cancer deaths, for any age group, to the total number of deaths from this cause.

In one section of the United States, the Far West, where the Metropolitan has more than 1,100,000 Industrial policyholders, the cancer deathrate has actually declined this year. It is among the great bulk of the insured (who live in the United States and east of the Rocky Mountains) and among approximately one and one-quarter million Canadians that the unusual rise has occurred. In Canada, it amounted to 7.5 per cent., up to the end of June.

THE PROBLEM OF RHEUMATIC DISEASE

The problem of rheumatic disease is much more important from the morbidity than from the mortality side. Rheumatism is a minor cause of death. In the United States only 4,500 deaths occur annually from it in all its forms, corresponding to a deathrate of less than four per 100,000. About two-thirds of these deaths are charged to acute rheumatic fever, and the rest to chronic rheumatism. Both in the population, at large, and among the Industrial policyholders of the Metropolitan Life Insurance Company, the deathrate from acute rheumatic fever has been declining steadily over a long period of years, while that for chronic rheumatism has been small and almost stationary.

The importance of the problem of rheumatic disease lies in its great prevalence, particularly of the disabling chronic forms of the disease. In a survey of over 600,000 persons, in 1917, the Metropolitan Life Insurance Company found that rheumatism was one of the most important causes of disability. Altogether, 164.4 persons per 100,000 persons surveyed were reported as suffering from rheumatic conditions, which accounted for nearly nine per cent. of all illnesses reported. Disability from rheumatic disease was outranked only by that from accidents, which caused but eight per cent. more

cases. The comparison of illness from rheumatic disease with that from other chronic conditions is interesting—tuberculosis accounted for less than half as many cases of disabling sickness; heart disease and cerebral hemorrhage each for two-fifths as many, and cancer for only one-tenth as many.* The statistics of illnesses occurring in Hagerstown, Maryland, compiled by the UNITED STATES PUBLIC HEALTH SERVICE, from December, 1921, to March, 1924, also show the high prevalence of rheumatic disease, disability from rheumatism ranking highest among that from chronic conditions.

The disability experience of the Metropolitan Life Insurance Company during 1928, among persons insured under group health contracts, confirms the earlier studies. In this experience, which is limited to illnesses lasting more than one week, there were among males 8.5 claims per 1,000 insured. Altogether, rheumatic disease accounted for six per cent. of all illnesses. Most of the rheumatic disability encountered in this survey was caused by the acute form.

Women show a much higher sickness rate from rheumatic disease than men. In the sickness surveys of the Metropolitan Life Insurance Company, the female rate was one and one-half times that for males; in the Hagerstown study, twice as high. This tendency is borne out by a survey of disability in rural New York.

Age is an important factor in the incidence of the illnesses, particularly those due to the chronic forms. In the Metropolitan surveys, only 0.2 persons per 1,000 were ill with rheumatic disease at ages under 15; but this rose to 0.9 at ages 15-35; 3.1, at ages 35 to 54; and to 11.0, at ages 55 and over. The figures for Hagerstown are similar.

The extent to which sufferers from rheumatic disease are disabled for work appears from the Metropolitan surveys of 1915 to 1917. Only 12.4 per cent. of these persons were at work; the rest being unable to work, although not all of them were confined to bed. These illnesses were, moreover, of long duration. In two localities for which the facts were brought together, 35.4 per cent. of the rheumatic patients had suffered from the disease three years or more. For all conditions, combined, only 17.4 per cent. of the illnesses had lasted for this length of time.

The prevalence of these conditions is very strongly associated with certain occupations. Generally speaking, morbidity rates from rheumatism are highest in industries and occupations where the individual is exposed to extremes of heat or cold, or to dampness. The sheltered

*To some extent, these figures must be discounted because the term "rheumatism" was undoubtedly used to describe many indefinite and undiagnosed conditions. On the other hand, most of the cases were true rheumatic conditions affecting either the joints or muscles.

occupations show uniformly low rates. Thus, in the Group Department disability experience of the Metropolitan Life Insurance Company, excessively high rates of attack occurred among quarry workers, iron miners, employees of steam railroads and subway and elevated roads and paper and pulp workers. Groups with low rates were employees of machinery and metal working plants and in the printing industry. Similarly, the experience of the BOSTON EDISON ELECTRIC ILLUMINATING COMPANY showed high sickness rates from rheumatism among repairmen, linemen, chauffeurs, meter testers, laborers, firemen and oilers.

The economic losses arising out of the great amount of disability from rheumatism are very high. It is estimated that rheumatic disease causes directly a loss each year of seven and one-half million weeks of work and a loss in wages of $200,000,000. Indirectly, there is a further incalculable loss because of the impaired efficiency of persons who work while suffering from rheumatism.

It is only recently that rheumatism has gained recognition as one of the country's foremost public health problems. But a decade ago there were only two or three clinics for its study; now they are found in nearly every medical center; in some cities there are several such clinics. Leaders in the treatment of these diseases have set up an organization, known as the AMERICAN COMMITTEE ON THE CONTROL OF RHEUMATISM, which is similar in type to those which have been so energetic in the campaigns against tuberculosis, cancer and cardiac disease. The Committee's objectives are to promote research into the various phases of rheumatic disease, to disseminate information about them to the medical profession, and to advance the development of clinical facilities for treatment. Leading authorities are agreed that, with proper treatment, based on thorough, scientific study of each individual case, rheumatic conditions can, in a large number of instances, be arrested, or even cured.

DEATHRATES LOWEST IN SUMMER AND LEAST VARIABLE

The summer season, year after year, registers a lower mortality rate than any other period of the year. The reasons are clear-cut. With the exception of diarrheal complaints, none of the more numerically important causes of death registers its maximum mortality during the summer, although the summer rate for accidents is high. Influenza, respiratory diseases, cardiac and renal conditions and the principal diseases of the nervous system, which, together, account for nearly one-half of all the deaths, have their very lowest mortality

incidence during the summer. The summer and autumn deathrates for tuberculosis are usually not far apart and are much lower than those prevailing during the winter and spring.

The summer, however, has not always been the most healthful of the seasons. The progress of sanitary science and the ever improving standards of domestic and civic hygiene have scored their greatest triumphs by reducing the death toll of two former scourges of summer, typhoid fever and infantile diarrhea. Only twenty years ago these two diseases, jointly, caused almost one-fifth of the total mortality of that season. Today, in contrast, typhoid is an almost negligible item in the mortality statistics; and the deathrate from infantile diarrhea has been reduced more than 80 per cent. in about two decades. But, as late as 1910, there were almost as many deaths during the summer as in the winter—and more than in either the spring or fall—due, chiefly, to the high deathrate from these two diseases.

Not only are the mortality rates of the summer now the lowest, but they show also the least variation from year to year. During the eight-year period 1923–1930, the range of the summer deathrates among the white Industrial policyholders of the Metropolitan Life Insurance Company extended from a low point of 7.1 per thousand in 1929, to a maximum of 7.4, in 1925; that is, the very highest deathrate was only a little more than 4 per cent. in excess of the lowest.

The chief reason for this slight variation in summer deathrates is the freedom of this season from the more or less severe epidemics which have occurred more especially in the winter. It is interesting to compare the series of deathrates of summer with those of our winters during this same eight-year period. In winter we have had the highest deathrates and the greatest variation. The severe influenza outbreak of the early months of 1929 was the principal factor in producing a deathrate, for all causes combined, of 10.8 per thousand among the white industrial policyholders of the Metropolitan. In the very next year the minimum winter mortality rate in eight years (8.7 per thousand) was recorded. The maximum winter mortality rate for the period, accordingly, was 24 per cent. in excess of the minimum, in contrast to a difference of but 4 per cent. between the high and low points for the summer season. Another influenza epidemic, in the winter of 1923, resulted in a mortality rate, for all causes, of 10.4 per thousand; and a similar outbreak in the winter of 1926 brought the winter deathrate up to 9.9. These figures are, respectively, 20 and 14 per cent. higher than the low point recorded for the winter of 1930.

The effects of the epidemics of our winters are often prolonged into our spring seasons. The influenza epidemic of 1926, for example, was followed by a spring deathrate of 9.5 per thousand, the maximum spring figure in the eight-year series. This was 16 per cent. higher than the minimum of 8.2 per thousand recorded for the spring of 1930. It is not inevitable, however, that a high spring deathrate will follow high winter mortality, as is shown by the fact that the second lowest spring deathrate in the eight-year series followed the highest winter rate, in 1929.

The fall season, like the summer-time, shows only a small variation in the mortality rate over this series of years. The maximum deathrate of 7.9 per thousand was recorded in 1928 and the minimum of 7.4 in 1930. The difference between these figures is only 7 per cent.

There has been only a negligible downward trend in the deathrate during this eight-year period, in each of the four seasons. The lowest rates for winter, spring and fall were recorded in 1930; the lowest summer mortality was in 1929.

Mortality from All Causes—White Persons Each Quarter of Years 1923 to 1930. Metropolitan Life Insurance Company, Industrial Department

Year	Deathrates Per 1,000 (All Ages)			
	1st Quarter	2d Quarter	3d Quarter	4th Quarter
1930	8.7	8.2	7.2	7.4
1929	10.8	8.3	7.1	7.6
1928	8.9	9.1	7.3	7.9
1927	9.0	8.4	7.3	7.6
1926	9.9	9.5	7.3	7.7
1925	9.3	8.6	7.4	7.6
1924	9.3	8.8	7.2	7.8
1923	10.4	8.8	7.3	7.8

PERIODIC MEDICAL EXAMINATIONS

It is gratifying to find the Medical Division of the War Department now an earnest advocate of periodic health examinations, a procedure which has had for years the support of leading life insurance companies. The War Department recommends these examinations* not only "as an effective measure in preventive medicine among officers and enlisted men," but as offering the best hope for the detec-

*Circular No. 25, War Department, Office of the Surgeon General, 1931.

tion of morbid conditions among their wives, at a stage in which these conditions "are amenable to cure or amelioration."

Furthermore, the Department now officially recognizes these periodic health check-ups as "a valuable public health procedure for the entire population." Back of this attitude, undoubtedly, is the recognition by the governmental agency chiefly responsible for our national defense of the fact that in the health of the *entire* population lies the country's greatest asset in the event of war, and that our strength depends on that individual physical efficiency which can result only from keeping the human body in the best condition to function properly. The officials responsible for this attitude have apparently not forgotten the important lesson taught by the disquieting results of the draft examinations, when a large proportion of the young men of the nation were found suffering from impairments, more or less serious. In many cases, these impairments, had they been corrected earlier, would not have rendered these young men ineligible for Army service. For years, the Department has interested itself in the health of "Army children," and the correction of the physical defects of the sons and daughters of officers and men stationed at the various Army posts. The Department's Medical Division will now extend this vigilance to the wives of the Army personnel.

In connection with its interest in periodic health examinations, the WAR DEPARTMENT particularly cites the opinion of DR. JOSEPH C. BLOODGOOD, a leading authority on cancer, that malignant growths of the cervix of the uterus are largely preventable and that these examinations "offer the greatest protection against unnecessary and untimely deaths" from this type of cancer among all women over thirty years of age. For all women who have passed the age of forty, Dr. Bloodgood insists that this examination should be done twice a year. The Department has expressed its earnest desire that its medical officers encourage annual physical examinations among the adult women living at or connected with their stations.

For years the Metropolitan Life Insurance Company has realized the value of periodic health examinations, in furthering the detection of impairments in their early stages; in bringing about their prompt treatment, thus averting serious chronic disease, and in spreading important hygienic advice and instruction. The Metropolitan, during the past seventeen years, has paid for nearly three-quarters of a million health examinations of policyholders in its Ordinary Department. A number of studies have definitely shown that the Company's expenditure for these examinations has been more than justified; for,

the subsequent mortality of the policyholders who took advantage of the Company's offer of free medical examination was more favorable than that for the policyholders at large, by 18 per cent. These studies showed that persons who are made aware of physical impairments often seek good medical care, follow medical advice, and are more likely to give increased attention to personal hygiene. Those who are overweight, for example, were found, on subsequent examinations, to have lost considerable weight, having followed advices given them on diet and exercise. It is inevitable that increased physical efficiency, better health and longer life must follow from an accurate and regular appraisal of the state of health and the functioning of the body.

HEALTH RECORD FOR JULY, 1931

July was the fourth successive month this year to register a lower deathrate than that for the corresponding month of 1930. This low mortality, since the beginning of the second quarter, has affected the cumulative deathrate for the year so favorably that at the end of July, it stands only 1.1 per cent. above the figure for the corresponding part of last year. At the end of the first quarter, the cumulative mortality rate was 5.1 per cent. above that for the like period of 1930. As each month passes the prospect becomes brighter that 1931, despite its somewhat unfavorable start, will equal or surpass the health record of any previous year. It is remarkable that health conditions should be so excellent in a year of business depression; and expecially among those, who like the Industrial policyholders of life insurance companies, feel the brunt of economic disturbances.

In Canada, and in the far western section of the United States the deathrate dropped appreciably this year. Among Canadian Industrial policyholders of the Metropolitan Life Insurance Company, the cumulative figure at the end of July showed a decline of 8.4 per cent.; among the insured living in the United States, west of the Rocky Mountains, the year-to-date deathrate dropped 4.8 per cent. In the rest of the United States, however, where most of the policyholders reside, there was an increase of nearly two per cent.

Except for the influenza outbreak of last winter, the present high prevalence of acute poliomyelitis, a considerable increase in deaths from diabetes, and an indicated rise of unusual proportions in the cancer mortality rate, there are no real bad spots in the 1931 health record, to date. The mortality has been low for all of the principal epidemic diseases of childhood, particularly diphtheria; the tubercu-

losis deathrate is seven per cent. below the previous minimum, registered only last year; the rates for diarrheal complaints and puerperal conditions are running lower than ever before. The small increases that appear for heart diseases and cerebral hemorrhage reflect largely the effect of last winter's influenza outbreak, which undoubtedly hastened the deaths of many persons suffering from chronic diseases.

As for deaths due to violence, the rates for suicide and homicide have increased slightly, and that for automobile accidents appreciably. For all accidents combined, however, a slight decline is in evidence, as compared with the January-July period of 1930.

The deathrate in the general population of the large cities of the United States in July was 11.0 per 1,000 estimated population, which is identical with that registered in June, and slightly lower than that for July a year ago (11.4). Influenza, poliomyelitis and typhoid fever were the only reportable diseases that were more prevalent in July than in June. Comparison with July, 1930, shows more cases of influenza, measles and scarlet fever, but lower morbidity for diphtheria poliomyelitis, smallpox and typhoid fever. These statements are based on the number of cases reported during the first four weeks of June and July, 1931, and of July, 1930.

The above statement with respect to poliomyelitis will doubtless occasion much surprise. When reports are received for August, it may be found that there has been a considerable increase in 1931. Up to the end of July, however, the gravity of the poliomyelitis situation was largely centered on the State of New York. Out of 558 cases reported from 47 states, 302 were in that state, as compared with only 19 in the previous month. It may be recalled that at this time last year there was an important outbreak of poliomyelitis in California, where 374 cases occurred in July, as compared with only 18 in the same month of 1931. Louisiana, Oklahoma, Minnesota and several other states report much less sickness from poliomyelitis this year than last, up to the end of July.

Only 18,186 cases of measles were reported from 36 states in July, as compared with 53,355 in June. Diphtheria cases in 31 states declined from 2,860 cases to 2,181; and reports from 46 states show only 5,195 cases of scarlet fever in July, as against 13,183 in June.

Figures from 46 states show that smallpox cases in July were cut to almost half the number registered for June. The more noteworthy reductions occurred in New York, Ohio, Pennsylvania, Illinois and Michigan.

The following were among the noteworthy public health activities of the month. A bill providing for the establishment of Pennsylvania's State Psychiatric Hospital, in Pittsburgh, was signed by the Governor. This Hospital will become an important teaching center for medical students, general practitioners, nurses, psychologists and social workers. Gifts for medical research, totaling nearly $120,000, were announced by COLUMBIA UNIVERSITY. Among them was one of $45,000 from the ROCKEFELLER INSTITUTE to finance continued research on the common cold. Another important contribution ($30,000) was made by EDWARD S. HARKNESS, for research in children's diseases. Four Michigan counties have now joined a recently organized health unit. The estimated cost is $26,000 a year, of which $21,000 will be supplied by the COUZENS FUND, the ROCKEFELLER FOUNDATION and the National and State governments, with the counties contributing the remaining $5,000. The unit will consist of four full-time employees—a physician, a nurse, a sanitary inspector and a dentist. It is expected that the unit will be operating by early fall.

The following table shows the mortality among Industrial policyholders for July, 1931; June, 1931, and July, 1930, together with the cumulative rate for the first seven months of each year.

METROPOLITAN LIFE INSURANCE COMPANY

Deathrates* per 100,000 for Principal Causes, Premium-Paying Business in Industrial Department (Annual Basis)

MONTHS OF JULY, 1931; JUNE, 1931, AND OF JULY, 1930

CAUSES OF DEATH	RATE PER 100,000 LIVES EXPOSED*				
	July 1931	June 1931	July 1930	Cumulative January to July	
				1931	1930
TOTAL—ALL CAUSES	831.7	835.1	854.6	934.8	924.4
Typhoid fever	1.7	1.9	2.6	1.3	1.5
Measles	3.2	5.5	2.3	4.7	4.4
Scarlet fever	2.6	3.7	1.8	3.8	3.2
Whooping cough	2.7	3.2	5.0	3.5	4.7
Diphtheria	3.0	3.3	4.3	4.4	6.8
Influenza	4.9	8.9	4.3	29.9	18.9
Tuberculosis (All forms)	74.4	77.9	86.1	80.6	86.6
Tuberculosis of resp'y system	64.9	67.9	75.4	71.2	75.2
Cancer	82.9	81.2	80.3	83.1	77.5
Diabetes mellitus	16.6	19.4	16.9	21.8	19.4
Cerebral hemorrhage	59.6	59.1	61.0	64.6	62.7
Organic diseases of heart	134.7	139.3	135.5	158.6	155.2
Pneumonia (All forms)	37.0	53.2	39.7	94.7	93.7
Other respiratory diseases	9.1	8.9	10.4	11.8	12.4
Diarrhea and enteritis	16.4	10.8	23.2	11.1	14.2
Bright's Disease (Chronic nephritis)	60.8	65.8	67.8	70.2	71.5
Puerperal state	10.2	11.4	11.5	11.7	12.9
Suicides	9.6	10.8	9.4	9.8	9.7
Homicides	7.0	6.2	7.9	6.7	6.5
Other external causes (excluding suicides and homicides)	89.7	65.3	81.1	60.0	61.4
Traumatism by automobiles	25.1	22.9	22.5	20.1	19.0
All other causes	205.5	199.3	203.5	202.5	201.5

*All figures in this table include insured infants under one year of age. The rates for 1931 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

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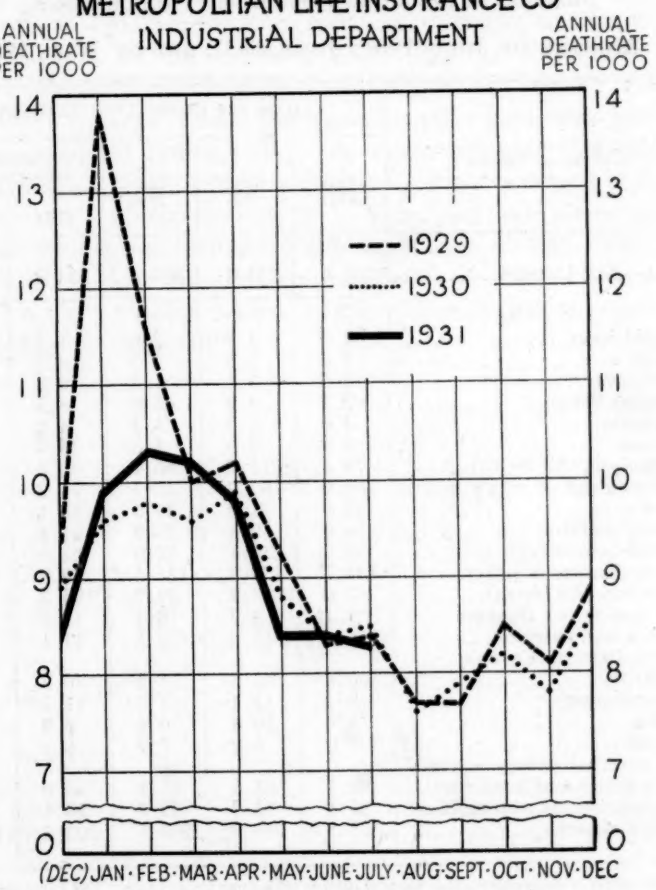
DEATHRATES
FROM ALL CAUSES

METROPOLITAN LIFE INSURANCE CO
INDUSTRIAL DEPARTMENT



1929	13.8	11.6	10.0	10.2	9.2	8.3	8.4	7.7	7.7	8.5	8.1	8.9
1930	9.6	9.8	9.6	9.9	8.8	8.4	8.5	7.6	7.9	8.2	7.8	8.6
1931*	9.9	10.3	10.2	9.8	8.4	8.4	8.3					

*Rates for 1931 are provisional

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